

**Amendments to the Claims:**

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of analyzing a printed image, comprising:  
scanning the printed image;  
determining spatial characteristics of the printed image;  
analyzing the spatial characteristics of the printed image;  
determining spatial variations in the printed image based on the analyzed spatial characteristics; and  
determining an analog tone or binary image marking process used to create the printed image based on the determined spatial variations in the printed image;  
wherein determining spatial variations of the printed image includes ~~at least one of~~ determining local variations in input data, determining half tone dot periodicity, ~~or~~ and determining frequency or noise characteristics; and wherein determining the image marking process does not require obtaining additional spectral information obtained through additional spectral channels, and does not require a power spectrum of the image data.
2. (Original) The method of claim 1, wherein spatial variations include local spatial variations of the scanned image data.
3. (Original) The method of claim 2, wherein a low value of the local spatial variation of the scanned image data is indicative of a photographic image marking process or background noise.
4. (Original) The method of claim 2, wherein a high value of the local spatial variation of the scanned image data is indicative of a halftone image marking process.
5. (Original) The method of claim 1, wherein spatial variations include at least one of dispersion and periodicity.

6. (Original) The method of claim 5, wherein a dispersed spatial variation of the scanned image data is indicative of an inkjet image marking process.

7. (Original) The method of claim 5, wherein a clustered spatial variation of the scanned image data is indicative of a xerographic image marking process or an offset image marking process.

8. (Original) The method of claim 1, wherein spatial characteristics include at least one of halftone dot periodicity, halftone screen frequency and halftone screen noise.

9. (Original) The method of claim 8, wherein a xerographic image marking process has low screen frequency and high screen noise characteristics.

10. (Original) The method of claim 8, wherein an offset image marking process has high screen frequency and low screen noise characteristics.

11. (Original) The method of claim 1, wherein scanning the printed image comprises dividing scanned printed image into image data blocks.

12. (Original) The method of claim 11, wherein scanning the printed image further comprises selecting one or more image data blocks.

13. (Canceled)

14. (Previously Presented) The method of claim 1, wherein the analyzing comprises determining one or more of an area average or mean of pixels in an image data block of the scanned printed image, an area variance of the pixels for the image data block, extreme minima value,  $\min_a$ , of the pixels for the image data block, extreme maxima value,  $\max_a$ , of the pixels for the image data block.

15. (Canceled)

16. (Previously Presented) The method of claim 14, wherein the analyzing further comprises one or more of determining a ratio of the area variance to mean determined for a given block, calculating a distribution of the mean values for large pixel areas, comparing the

calculated mean value to the determined  $\min_a$  and/or  $\max_a$  values, and determining a distance between maxima/minima.

17. (Canceled)

18. (Previously Presented) The method of claim 1, wherein determining an image marking process further comprises setting color attributes for storage, transmission, transformation or reproduction.

19. (Currently Amended) A method of determining an image marking process used to create a printed image, comprising:

scanning the printed image;

determining spatial characteristics of the printed image;

analyzing the spatial characteristics of the printed image;

determining local spatial variations in the printed image based on the analyzed spatial characteristics; and

determining an analog tone or binary image marking process used to create the printed image based on the determined local spatial variations in the printed image;

wherein determining spatial variations of the printed image includes ~~at least one of~~ determining local variations in input data, determining half tone dot periodicity, ~~or~~ and determining frequency or noise characteristics; and wherein determining the image marking process does not require obtaining additional spectral information obtained through additional spectral channels, and does not require a power spectrum of the image data.

20. (Original) The method of claim 19, wherein local spatial variations include dispersion and periodicity.

21. (Original) The method of claim 19, wherein spatial characteristics include halftone dot periodicity, halftone screen frequency and halftone screen noise.

22. (Canceled)

23. (Previously Presented) The method of claim 19, wherein the analyzing comprises determining one or more of an area average or mean of pixels in an image data block of the scanned printed image, an area variance of the pixels for the image data block, extreme minima value,  $\min_a$ , of the pixels for the image data block, extreme maxima value,  $\max_a$ , of the pixels for the image data block.

24. (Canceled)

25. (Previously Presented) The method of claim 23, wherein the analyzing further comprises one or more of: determining a ratio of the area variance to mean determined for a given block, calculating a distribution of the mean values for large pixel areas, comparing the calculated mean value to the determined  $\min_a$  and/or  $\max_a$  values, and determining a distance between maxima/minima.

26. (Previously Presented) The method of claim 19, wherein determining an image marking process further comprises setting color attributes for storage, transmission, transformation or reproduction.

27. (Currently Amended) A machine-readable medium that provides instructions for determining an image marking process used to create a printed image, instructions, which when executed by a processor, cause the processor to perform operations comprising:

scanning the printed image;

determining spatial characteristics of the printed image;

analyzing the spatial characteristics of the printed image;

determining local spatial variations in the printed image based on the analyzed spatial characteristics; and

determining an analog tone or binary image marking process used to create the printed image based on the determined local spatial variations in the printed image;

wherein determining spatial variations of the printed image includes ~~at least one of~~ determining local variations in input data, determining half tone dot periodicity, ~~or~~ and determining frequency or noise characteristics; and wherein determining the image marking process does not require obtaining additional spectral information obtained through additional spectral channels, and does not require a power spectrum of the image data.

28. (Original) The machine-readable medium according to claim 27, wherein local spatial variations include dispersion and periodicity.

29. (Original) The machine-readable medium according to claim 27, wherein spatial characteristics include halftone dot periodicity, halftone screen frequency and halftone screen noise.

30. (Canceled)

31. (Previously Presented) The machine-readable medium according to claim 29, wherein the analyzing comprises determining one or more of an area average or mean of pixels in an image data block of the scanned printed image, an area variance of the pixels for the image data block, extreme minima value,  $\min_a$ , of the pixels for the image data block, extreme maxima value,  $\max_a$ , of the pixels for the image data block.

32. (Canceled)

33. (Previously Presented) The machine-readable medium according to claim 31, wherein the analyzing further comprises one or more of: determining a ratio of the area variance to mean determined for a given block, calculating a distribution of the mean values for large pixel areas, comparing the calculated mean value to the determined  $\min_a$  and/or  $\max_a$  values, and determining a distance between maxima/minima.

34. (Previously Presented) The machine-readable medium according to claim 27, wherein determining an image marking process further comprises setting color attributes for storage, transmission, transformation or reproduction.

35. (Currently Amended) A media/image marking process identification system for a printed ~~page~~image, comprising:

- a memory; and
- a media/image marking process identification determination circuit, routine or application that identifies at least one of a media type for the printed ~~image page~~ or an image marking process used to process the printed image page, by processing the printed image page to determine spatial characteristics of the printed image; analyzing the spatial characteristics of the printed image; determining local spatial variations in the printed image based on the analyzed spatial characteristics; and determining an analog tone or binary image marking process used to create the printed image based on the determined local spatial variations in the printed image;

wherein determining spatial variations of the printed image includes ~~at least one of~~ determining local variations in input data, determining half tone dot periodicity, ~~or~~ and determining frequency or noise characteristics; and wherein determining the image marking process does not require obtaining additional spectral information obtained through additional spectral channels, and does not require a power spectrum of the image data.

36. (Original) The media/image marking process identification system according to claim 35, wherein local spatial variations include dispersion and periodicity.

37. (Original) The media/image marking process identification system according to claim 35, wherein spatial characteristics include halftone dot periodicity, halftone screen frequency and halftone screen noise.

38. (Canceled)

39. (Previously Presented) The media/image marking process identification system according to claim 35, wherein the analyzing comprises determining one or more of an area average or mean of pixels in an image data block of the scanned printed image, an

area variance of the pixels for the image data block, extreme minima value,  $\min_a$ , of the pixels for the image data block, extreme maxima value,  $\max_a$ , of the pixels for the image data block.

40. (Canceled)

41. (Previously Presented) The media/image marking process identification system according to claim 39, the analyzing further comprises one or more of: determining a ratio of the area variance to mean determined for a given block, calculating a distribution of the mean values for large pixel areas, comparing the calculated mean value to the determined  $\min_a$  and/or  $\max_a$  values, and determining a distance between maxima/minima.

42. (Previously Presented) The media/image marking process identification system according to claim 35, wherein determining an image marking process further comprises setting color attributes for storage, transmission, transformation or reproduction.